

Amendments to the Claims

Please amend the Claims as follows:

1. (Currently amended) An umbrella comprising:
 - a shaft,
 - a plurality of rib members, first ends of said rib members spaced about and pivotally connected at or adjacent a first end of said shaft,
 - a canopy ~~including pocket means~~ comprising one or more pockets at or adjacent to the periphery of the canopy wherein an opening or openings in the or each pocket ~~means~~ is accessible from the direction of the central portion of the canopy,
 - a ~~sliding means~~ slider movable along the shaft to ~~erect open~~ or collapse the umbrella,
 - a plurality of struts, each of which is pivotally connected between the ~~sliding means~~ slider and a rib member, and
 - a deployable force ~~spreading means~~ spreader provided on a second end of each rib member, the force ~~spreading means~~ spreader received within one of the ~~pocket means~~ pockets of the canopy.
2. (Currently amended) An umbrella as claimed in claim 1, wherein the inside of the or each pocket ~~means~~, at least opposite to the opening, is closed to provide a bearing surface upon which the force ~~spreading means~~ spreader contacts.
3. (Currently amended) An umbrella as claimed in claim 1 or claim 2, ~~wherein said pocket means comprise~~ comprising a plurality of separate pockets spaced about the canopy's periphery, wherein one force ~~spreading means~~ spreader is received within each pocket.
4. (Original) An umbrella as claimed in claim 3, wherein a closed edge of each pocket lies along the periphery of the canopy and the opening in each pocket is in the form of a slit substantially aligned with its rib member.

5. (Previously presented) An umbrella as claimed in claim 3, wherein the periphery of each pocket is closed.

6. (Currently amended) An umbrella as claimed in claim 1, further comprising a secondary ~~sliding means~~ slider movable along the shaft between said ~~sliding means~~ slider and the first end of said shaft, and a plurality of secondary struts each pivotally connected between said secondary ~~sliding means~~ slider and a respective strut.

7. (Original) An umbrella as claimed in claim 6, wherein said secondary struts are about half as long as the struts.

8. (Original) An umbrella as claimed in claim 6, wherein said secondary struts are about 15/26 times the length of the struts.

9. (Currently amended) An umbrella as claimed in claim 6, wherein each secondary strut is connected to a strut a pre-determined distance from its connection with said ~~sliding means~~ slider, wherein said pre-determined distance is substantially equal to the length of said secondary strut.

10. (Currently amended) An umbrella as claimed in claim 6, wherein the ~~sliding means~~ includes slider comprises a ~~spacing means~~ spacer above the position on the ~~sliding means~~ slider at which the struts are connected and which, during erection of the umbrella, contacts and pushes the secondary ~~sliding means~~ slider and once the umbrella has reached a fully erected state, fixes the spacing between the ~~sliding means~~ slider and secondary ~~sliding means~~ slider.

11. (Currently amended) An umbrella as claimed in claim 6, wherein during erection of the umbrella, ~~holding means~~ a holder temporarily ~~held~~ holds the secondary ~~sliding means~~ slider in position at a predetermined location along the shaft before releasing the secondary ~~sliding means~~ slider once the ~~sliding means~~ slider has moved a predetermined distance towards the secondary ~~sliding means~~ slider.

12. (Currently amended) An umbrella as claimed in claim 6, wherein each rib member ~~includes~~ comprises an inner rod ~~means~~ extending between the shaft and ~~a force spreading means~~ the force spreader and an outer tube slidable on said inner rod ~~means~~ wherein each outer tube is pivotally connected to a strut.

13. (Currently amended) An umbrella as claimed in claim 12, wherein each force ~~spreading means includes~~ spreader comprises a load spreading surface adapted to transfer radial force from the outer tube of said rib member to the periphery of said canopy via said pocket ~~means~~.

14. (Original) An umbrella as claimed in claim 13, wherein the amount of contact between said canopy and said load spreading surface increases during erection of said umbrella.

15. (Currently amended) An umbrella as claimed in claim 13, wherein said force ~~spreading means~~ spreader comprises two legs pivotally connected together at a pivot region and forming a substantially 'V' shape when said umbrella is in a collapsed state and wherein said legs are spread apart and substantially aligned during erection of said umbrella, the two legs and the pivot region forming said load spreading surface.

16. (Currently amended) An umbrella as claimed in claim 15, wherein the outer end of ~~an~~ each inner rod ~~means~~ contacts the pivot region of a respective force ~~spreading means~~ spreader and the outer end of ~~an~~ each outer tube is connected to both of the legs of said a respective force ~~spreading means~~ spreader.

17. (Currently amended) An umbrella as claimed in claim 15, wherein the outer end of ~~an~~ each inner rod ~~means~~ is received within a longitudinal bore provided in a stopper connected to or forming a part of the pivot region of a each force ~~spreading means~~ spreader.

18. (Currently amended) An umbrella as claimed in claim 15, wherein each force ~~spreading means~~ includes spreader comprises first and second spreading members, each pivotally connected to a respective pivotally connected leg and non-pivotally connected to a tube mounting hub of said force ~~spreading means~~ spreader, the tube mounting hub connected to the outer end of said outer tube, said inner rod ~~means~~ passing through the tube mounting hub.

19. (Currently amended) An umbrella as claimed in claim 15, wherein said force ~~spreading means~~ spreader is formed from a ~~plasties~~ plastic material and wherein living hinges form the pivotal connections therein.

20. (Currently amended) An umbrella as claimed in claim 12, wherein the inner rod ~~means~~ comprises more than one abutable separate inner rod portions within an outer tube.

21. (Original) An umbrella as claimed in claim 20, wherein an inner rod portion furthest from the shaft has a lower weight per unit length than an inner rod portion closer to the shaft.

22. (Previously presented) An umbrella as claimed in claim 1, wherein no more than six rib members are provided about said shaft.

23. (Original) An umbrella frame comprising:

a shaft,

a plurality of rib members, first ends of said rib members spaced about and pivotally connected at or adjacent a first end of said shaft,

a primary ~~sliding means~~ slider movable along the shaft to erect or collapse the umbrella frame,

a secondary ~~sliding means~~ slider movable along the shaft between the primary ~~sliding means~~ slider and the first end of the shaft,

a plurality of primary struts, each of which is pivotally connected between the primary ~~sliding means~~ slider and a rib member, and

a plurality of secondary struts, each of which is pivotally connected between the secondary ~~sliding means~~ slider and a primary strut,

wherein each rib member comprises an inner rod extending between the shaft and a force spreader and an outer tube slidable on said inner rod wherein each outer tube is pivotally connected to a respective primary strut.

24. (Currently amended) An umbrella frame as claimed in claim 23, wherein a each force ~~spreading means~~ spreader is provided on a second end of each rib member.

25. (Previously presented) An umbrella frame as claimed in claim 23, wherein said secondary struts are about half as long as the primary struts.

26. (Previously presented) An umbrella frame as claimed in claim 23, wherein said secondary struts are about 15/26 times the length of the primary struts.

27. (Currently amended) An umbrella frame as claimed in claim 23, wherein each secondary strut is connected to a primary strut a pre-determined distance from its connection with said primary ~~sliding means~~ slider, wherein said pre-determined distance is substantially equal to the length of said secondary strut.

28. (Currently amended) An umbrella frame as claimed in claim 23, wherein the primary ~~sliding means includes~~ slider comprises a ~~spacing means~~ spacer above the position on the primary ~~sliding means~~ slider at which the primary struts are connected and which, during erection of the umbrella frame, contacts and pushes the secondary ~~sliding means~~ slider and once the umbrella frame has reached a fully erected state, fixes the spacing between the primary ~~sliding means~~ slider and secondary ~~sliding means~~ slider.

29. (Currently amended) An umbrella frame as claimed in claim 23, wherein during erection of the umbrella frame, ~~holding means~~ a holder temporarily ~~hold~~ holds the secondary ~~sliding~~

~~means slider~~ in position at a predetermined location along the shaft before releasing the secondary ~~sliding means slider~~ once the primary ~~sliding means slider~~ has moved a predetermined distance towards the secondary ~~sliding means slider~~.

30. (Cancelled)

31. (Currently amended) An umbrella frame as claimed in claim 30 ~~29~~, wherein ~~a force spreading means is provided on a second end of each rib member~~, each force ~~spreading means including spreader~~ comprises a load spreading surface adapted to transfer radial force from the outer tube of said rib member to the periphery of a canopy adapted to be supported by the umbrella frame.

32. (Original) An umbrella frame as claimed in claim 31, wherein the effective length or contact area of said load spreading surface increases during erection of said umbrella frame.

33. (Currently amended) An umbrella frame as claimed in claim 31, wherein ~~said force spreading means~~ each force spreader comprises two legs pivotally connected together at a pivot region and forming a substantially 'V' shape when said umbrella frame is in a collapsed state and wherein said legs are spread apart and substantially aligned during erection of said umbrella frame, the two legs and the pivot region forming said load spreading surface.

34. (Currently amended) An umbrella frame as claimed in claim 33, wherein the outer end of ~~an each~~ inner rod ~~means~~ contacts the pivot region of a respective force ~~spreading means spreader~~ and the outer end of ~~an each~~ outer tube is connected to both of the legs of ~~said a a~~ respective force ~~spreading means spreader~~.

35. (Currently amended) An umbrella frame as claimed in claim 33, wherein the outer end of ~~an each~~ inner rod ~~means~~ is received within a longitudinal bore provided in a stopper connected to or forming a part of the pivot region of a force ~~spreading means spreader~~.

36. (Currently amended) An umbrella frame as claimed in claim 33, wherein each force ~~spreading means includes~~ spreader comprises first and second spreading members, each pivotally connected to a respective pivotally connected leg and non-pivotally connected to a tube mounting hub of said force ~~spreading means~~ spreader, the tube mounting hub connected to the outer end of said outer tube, said inner rod ~~means~~ passing through the tube mounting hub.

37. (Currently amended) An umbrella frame as claimed in claim 33, wherein said force ~~spreading means~~ spreader is formed from a ~~plasties~~ plastic material and wherein living hinges form the pivotal connections therein.

38. (Currently amended) An umbrella frame as claimed in claim 30, wherein the inner rod ~~means~~ comprises more than one abutable separate inner rod portions within an outer tube.

39. (Original) An umbrella frame as claimed in claim 38, wherein an inner rod portion furthest from the shaft has a lower weight per unit length than an inner rod portion closer to the shaft.

40. (Previously presented) An umbrella frame as claimed in claim 23, wherein no more than six rib members are provided about said shaft.

41. (Currently amended) An umbrella frame comprising:

a shaft,

a plurality of rib members spaced about said shaft, each rib member ~~including~~ comprising a first portion pivotally connected at or adjacent a first end of said shaft and a second portion freely slidable relative to said first portion,

a ~~sliding means~~ slider movable along the shaft to erect or collapse the umbrella frame,
and

a plurality of struts, each of which is pivotally connected between the ~~sliding means~~ slider and the second portion of said rib member,

wherein a force spreader is provided on the end of each rib member furthest from the shaft, and

the first portion of each rib member comprises an inner rod extending between the shaft and a respective force spreader and an outer tube slidable on said inner rod wherein each outer tube is pivotally connected to a strut.

42. (Currently amended) An umbrella frame as claimed in claim 41, further comprising a secondary ~~sliding means~~ slider movable along the shaft between said ~~sliding means~~ slider and the first end of said shaft, and a plurality of secondary struts each pivotally connected between said secondary ~~sliding means~~ slider and a respective strut.

43. (Original) An umbrella frame as claimed in claim 42, wherein said secondary struts are about half as long as the struts.

44. (Previously presented) An umbrella frame as claimed in claim 42, wherein said secondary struts are about 15/26 times the length of the struts.

45. (Currently amended) An umbrella frame as claimed in claim 43, wherein each secondary strut is connected to a strut a pre-determined distance from its connection with said ~~sliding means~~ slider, wherein said pre-determined distance is substantially equal to the length of said secondary strut.

46. (Currently amended) An umbrella frame as claimed in claim 42, wherein the ~~sliding means includes~~ slider comprises a spacing means spacer above the position on the ~~sliding means~~ slider at which the struts are connected and which, during erection of the umbrella frame, contacts and pushes the secondary ~~sliding means~~ slider and once the umbrella frame has reached a fully erected state, fixes the spacing between the ~~sliding means~~ slider and secondary ~~sliding means~~ slider.

47. (Currently amended) An umbrella frame as claimed in claim 42, wherein during erection of the umbrella frame, ~~holding means~~ a holder temporarily ~~hold~~ holds the secondary ~~sliding means~~ slider in position at a predetermined location along the shaft before releasing the secondary ~~sliding means~~ slider once the ~~sliding means~~ slider has moved a predetermined distance towards the secondary ~~sliding means~~ slider.

48. (Cancelled)

49. (Cancelled)

50. (Currently amended) An umbrella frame as claimed in claim ~~48~~ 41, wherein each force ~~spreading means includes~~ spreader comprises a load spreading surface adapted to transfer radial force from the outer tube of said rib member to the periphery of a canopy adapted to be supported by the umbrella frame.

51. (Original) An umbrella frame as claimed in claim 50, wherein the effective length or contact area of said load spreading surface increases during erection of said umbrella frame.

52. (Currently amended) An umbrella frame as claimed in claim 51, wherein ~~said force spreading means~~ each force spreader comprises two legs pivotally connected together at a pivot region and forming a substantially 'V' shape when said umbrella frame is in a collapsed state and wherein said legs are spread apart and substantially aligned during erection of said umbrella frame, the two legs and the pivot region forming said load spreading surface.

53. (Currently amended) An umbrella frame as claimed in claim 52, wherein the outer end of an inner rod ~~means~~ contacts the pivot region of a force ~~spreading means~~ spreader and the outer end of an outer tube is connected to both of the legs of said force ~~spreading means~~ spreader.

54. (Currently amended) An umbrella frame as claimed in claim 52, wherein the outer end of an inner rod ~~means~~ is received within a longitudinal bore provided in a stopper connected to or forming a part of the pivot region of a respective force spreading means spreader.

55. (Currently amended) An umbrella frame as claimed in claim 52, wherein each force ~~spreading means includes~~ spreader comprises first and second spreading members, each pivotally connected to a respective pivotally connected leg and non-pivotally connected to a tube mounting hub of said force ~~spreading means~~ spreader, the tube mounting hub connected to the outer end of said outer tube, said inner rod ~~means~~ passing through the tube mounting hub.

56. (Currently amended) An umbrella frame as claimed in claim 52, wherein said force ~~spreading means~~ spreader is formed from a ~~plasties~~ plastic material and wherein living hinges form the pivotal connections therein.

57. (Currently amended) An umbrella frame as claimed in claim 49, wherein the inner rod ~~means~~ comprises more than one abutable separate inner rod portions within an outer tube.

58. (Original) An umbrella frame as claimed in claim 57, wherein an inner rod portion furthest from the shaft has a lower weight per unit length than an inner rod portion closer to the shaft.

59. (Previously presented) An umbrella frame as claimed in claim 41, wherein no more than six rib members are provided about said shaft.

60. (Currently amended) An umbrella ~~including~~ comprising a canopy supported by an umbrella frame as claimed in claim 23 or claim 41.

61. (Currently amended) An umbrella as claimed in claim 60, wherein the canopy ~~includes~~ pocket means comprises one or more pockets at or adjacent to the periphery of the canopy

wherein an opening or openings in the or each pocket ~~means~~ is accessible from the direction of the central portion of the canopy.

62. (Currently amended) An umbrella as claimed in claim 61, wherein the inside of the or each pocket ~~means~~, at least opposite to the opening, is closed to provide a bearing surface upon which the force ~~spreading means~~ spreader contacts.

63. (Currently amended) An umbrella as claimed in claim 61, wherein a force ~~spreading means~~ spreader is provided on the end of each rib member furthest from the shaft, ~~wherein said pocket means comprise~~ comprising a plurality of separate pockets spaced about the canopy's periphery, and wherein one force ~~spreading means~~ spreader is received within each pocket.

64. (Original) An umbrella as claimed in claim 63, wherein a closed edge of each pocket lies along the periphery of the canopy and the opening in each pocket is in the form of a slit substantially aligned with its rib member.

65. (Cancelled)

66. (Cancelled)

67. (New) An umbrella comprising:

a shaft,

a plurality of rib members, first ends of said rib members spaced about and pivotally connected at or adjacent a first end of said shaft,

a canopy comprising one or more pockets at or adjacent to the periphery of the canopy wherein an opening or openings in the or each pocket is accessible from the direction of the central portion of the canopy,

a slider movable along the shaft to open or collapse the umbrella,

a plurality of struts, each of which is pivotally connected between the slider and a rib member, and

a force spreader provided on a second end of each rib member, the force spreader received within one of the pockets of the canopy,

wherein the force spreader is deployable from a collapsed state to an expanded state within the pocket to tension the canopy upon reconfiguring the umbrella from a collapsed state to an open state using the slider.

68. (New) An umbrella according to claim 67 wherein each rib member comprises a first member slidable relative to a second member pivotally connected to the shaft, each force spreader being provided on an end of a respective first member, wherein movement of a first member relative to a respective second member away from the shaft deploys the force spreader to an expanded state.

69. (New) An umbrella according to claim 68 wherein the force spreader comprises a mounting hub for providing the force spreader on an end of a respective first member, first and second spreading members for bearing against an internal portion of a respective pocket when in the expanded state, and first and second legs coupled between the hub and first and second spreading members, wherein movement of a first member away from the shaft splays the spreading members via the hub and legs into the expanded state.

70. (New) An umbrella according to claim 69 wherein movement of the first member towards the shaft retracts the spreading members via the hub and legs into the collapsed state.